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WINTER FEEDING OF WILD LIFE ON NORTHERN FARMS

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Wild life in northern climates needs man's help in winter; this fact has long been recognized. The sheaf of grain that in some European countries is raised on a pole for the birds at Christmas time symbolizes man's response to the need of wild life; but more than a symbol, more than an offering at a single season, is required.

Winter feeding, to be really helpful, should be well planned and sustained. Food should be readily accessible before it is needed, and the supply should never fail. Methods of winter feeding for wild life that actual experience has proved to be valuable are discussed in this publication, and it is hoped that an increasing use of them will be one of the mainstays in conserving interesting and useful species.

IMPORTANCE OF WINTER FOOD

Winter is a critical period for many species of wild life. Coverts then grow smaller in area and, without foliage, become less effective in protection, while available food supplies also diminish in both quantity and quality. Some species escape these hardships by hibernating or by migrating, but by midwinter the upland game birds, some small mammals, and many song birds are often being crowded into restricted patches of cover and forced to subsist on scanty and unsatisfactory foods (fig. 1).

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Under such circumstances starvation may kill these creatures directly, or it may indirectly cause their death by so weakening them that they are easy victims of predatory animals, or more susceptible to cold, disease, and other agencies that would not menace well-nourished individuals. Well-fed game birds, for instance, rarely, if ever, die from exposure to cold, even in the most severe weather of northern winters, and if food is abundant in and near good cover they have little to fear from natural enemies. Food, always a limiting factor in determining the distribution and abundance of wild life, is therefore of the utmost importance, especially for birds, in times of excessive cold, sleet, deep snows, and blizzards. Yet many coverts are seriously deficient in available winter foods.

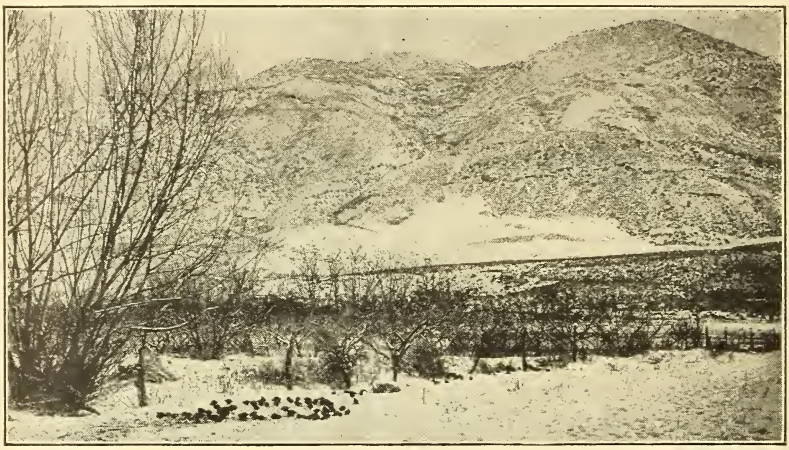

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FIGURE 1.—Cover and food scanty, winter feeding needed.

NATURAL FOODS AND THEIR DEFICIENCY IN WINTER

The chief natural winter foods of northern game and small winter birds are weed seeds, dried berries and fruits, and to some extent buds and persistent green foliage.

Among weed seeds, those of ragweed are of great importance to birds in stubble fields, pastures, and fallow lands, but the supply is generally limited and frequently the seeds are buried under snow. The same is true of the seeds of several other weeds; by midwinter the supply is usually exhausted or buried, especially in regions that are intensively farmed. This winter food supply for the birds will be more abundant, however, if harvesting machines are set to leave long, high stubble; and, for game-feeding purposes, stubble fields near coverts should be left unplowed over winter.

Though some weeds that have the utmost importance in carrying the birds through the winter are considered pests by the farmer, it should be remembered that during the crop seasons birds will repay the farmer for the consideration he gives them in winter. Furthermore, in spring and summer the surplus weeds are ordinarily removed by cultivation. Leaving weeds in suitable places causes the farmer little, if any, extra work, and they are lifesavers for the birds.

Dried fruits and berries are scarce on most farms. Furthermore, they are frequently covered up, out of reach, of poor quality, or distant from good protective cover. In any event, it is inadvisable to place any great dependence on sumac berries, rose hips, bittersweet berries, sweetclover seed, dried grapes, and other similar foods—especially when considering bobwhites. For ruffed grouse, sharp-tailed grouse, and pheasants these foods may have more value, but it is well to provide supplementary grains of proved utility instead of placing entire reliance on an uncertain abundance of fall berries and fruits. The same is true of buds and foliage, although buds are a staple winter food for ruffed and sharp-tailed grouse, and green foliage seems to be important for Hungarian partridges.

By and large, the combined supply of weeds, berries, fruits, buds, and green foliage available to wild life in winter is decidedly deficient on the ordinary farm, and many farms in intensively cultivated sections are virtually barren of any usable natural food.

In the face of this situation it is urgent that interested persons, whether on farms or in towns and cities, provide adequate winter feeding in their communities. So many adverse factors are depleting game birds that every effort to correct environmental deficiencies should be made. Unless definite remedial measures are inaugurated very soon, in most sections of the country the ever-increasing army of upland game-bird hunters will be further restricted in their sport. The supply of game is being destroyed faster than it is being replenished by natural means. Measures to facilitate replenishment are essential, and winter feeding is one of the most practicable within the power of the ordinary sportsman.

Food for many valuable small winter birds is provided incidentally by winter-feeding activities for game. Persons generally interested in nature, however, may well pay particular attention to small birds, especially to the tree-inhabiting species, including downy woodpeckers, nuthatches, and creepers. By means of suet and other food these can frequently be attracted to lawns and orchards that they would not otherwise visit.[1] Chaff, screenings, table scraps, or other waste thrown on the ground or snow (fig. 2) will feed many ground-loving species; or scratch feed or other grains or seeds may be provided with little expense.

ORGANIZING A WINTER-FEEDING CAMPAIGN

Well-planned organization will facilitate feeding activities, particularly when snow or mud blocks country roads or during a blizzard. In the past much winter feeding has been ineffective because bad weather was not anticipated far enough in advance, or because preparations had lagged. Feeding operations should be under way before the usual critical periods. In some instances considerable feed caches handy to feeding stations should be made well in advance of the ordinary storm periods.

Farm boys and men have the best opportunities to feed wild game in winter, not only because of their situation but also because of their general interest in wild life and their intimate knowledge of

[1] Directions for winter feeding of small birds are contained in Farmers' Bulletins 621, which applies to the Northeastern States, 760, to the Northwestern States, 844, to the Middle Atlantic States, and 912 to the East Central States.

the many forms. The bulk of winter feeding is done by farmers, in most cases simply for the enjoyment and occasional sport they derive from having the birds on their properties. Any feeding campaign must have the cooperation of the resident farmers.

A town or city game association sponsoring winter feeding may well form a definite organization to raise funds, solicit labor, and in general obtain the cooperation of individual hunters, Boy Scouts, women's clubs, and business men's associations, and of the local press, outing-goods stores, grain-elevator operators, feed-mill proprietors, rural-mail carriers, railway section workers, and others.

Having obtained such cooperation, the organization should delegate certain individuals who are well acquainted with local farmers to make arrangements for wholesale, systematic feeding. Although in many cases it is not necessary to pay farm owners either for

FIGURE 2.—Winter feeding of small birds. B71IM

services or for grain to be used in feeding birds, there can be no question that reasonable reimbursement for the grain, at least, will go far toward establishing better feeling between sportsmen and farmers. When arrangements are made to leave standing corn or shocks of corn, or to feed threshed grain, payment certainly should be made. If the production of game can be made profitable for the farmer, even in a small way, it is reasonable to suppose that he will be willing to leave a half-acre thicket here and there for cover and food and that he will take an interest in increasing his game stock. If, however, hunters are unwilling to assume some of the cost of production, farmer-sportsman controversies may be accentuated and at the same time the game birds, left without cover and short of food, will continue to decrease in numbers.

At present game birds and animals often constitute a liability rather than an asset on farms, since their very presence subjects the farmer to annoying and sometimes destructive trespass by hunters. Where winter concentrations of game birds occur, considerable quantities of the farmer's crops may be eaten, thereby adding to his loss. It is useless, under such circumstances, to urge farmers to feed game for the implied purpose of furnishing sport to strangers.

In some communities winter-feeding contests are practicable if given sufficient publicity through local papers. These contests may be sponsored by State conservation departments and supervised by

game protectors or wardens, or they may be carried on in schools. Awards are made on the basis of methods of winter feeding employed and the extent and effectiveness of the contestants' feeding activities. Such competition is most effective when organized on a large scale. Contests have a broad educational value, but are less likely to produce permanent results than are personal interviews, the direct purchase of materials and services, and definite organization.

There are many ways of organizing winter-feeding campaigns, but they all require work and effort. Game wardens assigned to this kind of duty create good will and respect, thus frequently obtaining better local cooperation in other phases of their work. Rural mail carriers have at times been instructed to assist in feeding game along country roads. Section crews on railroads also sometimes carry food to localities difficult of access, if the materials are furnished to them. Other ways of getting the work done will be found in many communities, and all should be kept in mind.

Regardless of the type of organization, preparations should be made well before feeding becomes necessary. Cooperation by farmers is the backbone of successful feeding operations. The test of the efficiency of winter feeding comes when roads are drifted, traffic paralyzed, and all ordinary transportation tied up. At such times necessary arrangements can sometimes be made by telephone.

CONVENIENT SOURCES OF FOOD

Food for permanent feeding stations, effective throughout most of the winter, should generally consist of standing, shocked, or sheaf grains. Convenient cheap feeds for day-to-day or emergency use include screenings from mills, threshing machines, combines, or elevators, haymow chaff, food-products-manufacturing wastes, and dry or fatty table scraps that are more or less resistant to freezing. Ordinarily these should be supplemented with grain.

FEEDING STATIONS

Feeding stations should be located in places that afford easy access to good protective cover (fig. 3). If established for quail, the station should probably never be more than 75 yards from protective cover, and even then a strip of connecting cover, or a series of patches at intervals, is desirable. Pheasants, prairie chickens, and sharp-tailed grouse will no doubt range farther for food. Hungarian partridges are like quail in being closely localized.

In areas where quail are abundant, one feeding station to every 40 acres is desirable; otherwise, a station may be located near the thickets or woods that a covey is known to use. The same applies to Hungarian partridges.

For ring-necked pheasants and sharp-tailed grouse, wholesale feeding can be done with one effective station to the square mile.

Prairie chickens may be accommodated by one good feeding station for every 5 or 10 sections—that is, every 5 or 10 square miles—although under stress these birds cover even larger areas in their search for food. Turkeys also will come from a considerable distance, but it is best to provide feed in all the permanent winter headquarters that they are known to frequent.

Little information is available on the effective intervals at which to place feeding stations for ruffed grouse. Although these birds subsist well on natural foods (buds, berries, and fruits), they also relish grains.

One permanent, well-attended feeding station to a farm is a good goal. Farmers who wish to make sure of holding their own stocks of birds, or to attract additional wild breeders to their property from outside, will probably find, however, that several feeding stations to a farm are needed. Establishing and giving adequate attention to developing good coverts constitute a definite step toward game-bird increase.

Stations should be in areas sheltered from drifting snow, wind, and sleet. They should not constitute traps or place the birds at any disadvantage. Since domestic poultry harbor some parasitic and

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FIGURE 3.—Feeding station accessible from good cover; ring-necked pheasants and bobwhites feeding. (Courtesy Minnesota Conservation Commission.)

other diseases, and since game birds harbor others that often are interchangeable with those of poultry, it is well not to feed game and poultry together or on the same ground.

Of course, in emergencies, game birds can be fed anywhere they are found, including railroad rights of way, hard-packed roads, hay stacks, and pits dug in the snow. The important thing is to have the feed where the birds will find it.

PERMANENT FEED PATCHES

STANDING AND SHOCKED CORN

The simpler and the more natural the feeding station, and the less attention it requires, the better. There is no more effective provision for winter feeding than leaving standing and shocked corn in fields near cover. If the corn is not near good cover, several brush-heap shelters may be provided. Standing corn for prairie chickens, sharp-tailed grouse, and ring-necked pheasants, and corn

shocks for bobwhites and Hungarian partridges, are the most satisfactory means of winter feeding in regions where the grain matures. Compared with other types of stations, they have the decided advantage of requiring little attention.

As the snow deepens, the birds are able to reach the hanging ears of standing corn. In patches of considerable size, ears may be at all elevations from 6 inches to 5 feet, and some are within reach even when snow is deep. When there is little snow or when no ears are near the ground, the stalks may be broken over. Light grazing of standing corn by cattle will cause many kernels to fall to the ground where the game can get them. Overgrazing, however, should be avoided, and where heavy grazing is necessary, a temporary fence should be built around a corner of the field to preserve corn as cover and food for the birds.

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FIGURE 4.—Shocked corn, well opened; prairie chickens feeding. (Courtesy Wisconsin Conservation Department.)

Shocks of corn are possibly most effective for quail. If they are opened up (fig. 4), tepee fashion, quail can scurry inside in the event of danger and can also obtain ears that would otherwise be out of reach. In blizzards, shocks may become heavily coated with ice or snow and require to be opened. Moreover, unless the shocks are opened, the birds may exhaust the supply of outside ears and thus be without food even in the midst of plenty. At such times squirrels dragging out the ears may incidentally save the lives of quail, which glean what the rodents drop.

A quarter to a half acre is probably the minimum size for an all-winter patch of corn. The size depends, of course, on the number of birds expected and the amount of grain that will be consumed by rabbits, squirrels, and mice. Town and city sportsmen may purchase (and, if necessary, fence) half-acre patches of shocked or standing corn for this purpose. For quail such patches should adjoin ungrazed wood lots, for pheasants they should preferably be near a

tamarack swamp or swale, and for prairie chickens, close to marshes. An ample number of these winter-feeding stations in each community would make a material difference in game-bird survival.

BUCKWHEAT

Buckwheat has well-known value for game, especially prairie chickens and sharp-tailed grouse, which use it from early in fall until late in spring. It is better adapted than corn for use in northerly latitudes. Because it is resistant to fire in summer, it is useful in fire lanes in brush and forest country, where it can be expected to feed a great variety of wild life. When grain is left standing for the birds, it is well also to have a good supply of sheaves stacked up against the time when the uncut grain will be buried by snow. The patches left for the birds should probably be larger than corn patches left for the same purpose. Buckwheat seems to be more of a delicacy than corn, and the patch will ordinarily be used longer. Buckwheat leaves also may be eaten, during the growing season.

WHEAT, RYE, AND BARLEY

When prices are low it is possible, even late in the season, for sportsmen to buy standing wheat, rye, or barley at very reasonable prices; and in any year, of course, arrangements can be made to have strips of grain adjacent to cover left uncut. A few sheaves of wheat set up in long stubble, which serves as moderately good cover, will be used by game birds and by many species of song birds as well. Rye is useful on sandy soil and in regions subject to frosts. It will volunteer the second year if the land is merely disked. Barley is accepted by most game birds but not especially relished by them. For this very reason, however, its use may be advantageous, as the drain on the station will be avoided until other foods have been exhausted.

MILO, KAFIR, AND OTHER SORGHUMS

Milo, kafir, and other sorghums are especially suitable for bobwhites in the southern parts of the Northern States, and for scaled quail in the higher altitudes of the Southwest.

SUNFLOWERS

Sunflowers are excellent for small birds and game. Goldfinches, crossbills, and other small birds are especially fond of the seeds. The gathered heads may be put out as needed, and the stalks, with a few heads attached, may be left for cover.

SOYBEANS

Soybeans are a delicacy to deer, quail, and most upland game birds. They are also valuable in increasing soil fertility. Practical measures for making them available include planting in fallow fields, in outside corn rows, and next to the usual coverts.

MISCELLANEOUS FOOD

Millet, pop corn, various peas, and other crops are adapted for bird-feed patches in the Northern States. Clover seed is sometimes eaten by birds where a second crop of hay is left. Winter

wheat will serve as green food if the snow is shoveled away. In general, experience and local farming practices are the best guides to what to plant, purchase, or leave. If there is doubt, using a variety is better than depending on any one crop.

PERMANENT SHELTERS

Many types of permanent feeding stations requiring more or less attention have been successfully used. These are effective over long periods if properly handled. The basis of most of them is some form of shelter into which loose grain is thrown, and this shelter may be as simple or elaborate as desired. A lean-to against a tree; cornstalks thrown over a brush heap; straw, stalks, or brush piled over an ordinary A-type brood coop; tepees; tar-paper shacks; fishing shanties hauled up on land; and many other shelters have been

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FIGURE 5.—Lean-to with food hopper, being used by prairie chickens and sharp-tailed grouse. (Courtesy Wisconsin Conservation Department.)

used. Large, roomy brush heaps with straw piled over them are especially effective for quail, and probably for Hungarian partridges; 3-sided lean-tos are good for pheasants and have been used successfully for sharp-tailed grouse. It is not so much the type of shelter that counts as its location and the care with which food is supplied.

Three-sided lean-tos (fig. 5) sheltering automatic wooden hoppers have proved effective in feeding prairie chickens and sharp-tailed grouse in Wisconsin, and are suitable for almost any species. The hopper can be of such size as to serve for short or long periods.

Feeding shelters for small birds may constitute attractive features of the lawn or orchard; they may be elaborate or simple, as taste and time dictate. A rough board shelter on a window sill or in some quiet place protected by shrubbery and trees is effective in attracting juncos, tree sparrows, crossbills, pine grosbeaks, cardinals, blue jays, creepers, woodpeckers, redpolls, and other winter birds, depending on the region and the location of the station. Shelters may be provided with such foods as apples, grains, birdseed, suet, nuts, raisins, and bread. Suet tacked or tied on posts or trees is attractive to the tree birds and will keep fresh for weeks.

TEMPORARY OR EMERGENCY FEEDING

Though all-winter food patches and regularly tended shelters are the better means of feeding birds, almost any kind of feeding will, in emergencies, aid wild life for short periods. It should be ascertained, however, that only temporary rather than permanent feeding is needed. A common tendency is to consider feeding ample if grain is carried out once or twice a winter, but in most cases food shortages extend over weeks or even months. Then, too, unless stations are so placed as to be protected from winds and drifting snow, the grain put out in the morning may be covered and unavailable by noon.

Airplanes are reported to have been used effectively in dropping bags of grain, which burst in falling, into coverts that otherwise could be reached only with great difficulty, as in mountainous country inhabited by wild turkeys.

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FIGURE 6.—Ear corn available at a lean-to station; ring-necked pheasants feeding. (Courtesy Wisconsin Conservation Department.)

EAR CORN

Ear corn may be used effectively in any of several ways; it may be hung on wire fences or from branches impaled on nails driven through boards resting on sticks (fig. 6), thrown loose in protected places, or even set up in the snow. The ears can be picked up easily and moved or stored, and they do not sink out of sight in snow so rapidly as does loose grain. Consequently not much of the corn is wasted.

STRAW STACKS

Straw stacks frequently afford sheltered places bare of snow on which ear corn, loose grain, haymow chaff, or screenings may be thrown to good advantage. Some straw stacks also contain enough waste grain and weed seeds to make it worth while to open them up from time to time to expose a fresh supply.

MANURE SPREADING

In some sections the daily spreading of manure on snowy fields is common enough to be an important factor in attracting game birds throughout the winter, as the manure contains enough undi-

gested grain to afford some food for small birds as well as for pheasants, quail, and Hungarian partridges. Throwing a little threshed grain on the manure after it has been spread on the fields is particularly efficacious, since the grain is visible to the birds and does not quickly sink out of sight.

NATURAL WINDBREAKS AND SHELTERS

Pits in the snow, with chunks of ice, crust, or even soft snow thrown up around them, are effective windbreaks for open-field birds, including Hungarian partridges, snow buntings, longspurs, horned larks, and redpolls. Grain thrown on the ground on the sheltered side of these barriers is easily visible to the birds. It tends to become drifted over in windy weather, however, and must be renewed repeatedly.

Natural windbreaks, such as those formed by trees, shrubbery, fallen logs, and stumps, may be taken advantage of in distributing shelled grains. Southerly exposed hillsides that blow bare and other areas not covered by snow offer similar opportunities. A variety of species may be fed under grapevine tangles and in various places of this sort that afford shelter.

PROVIDING GRIT AT STATIONS

Game birds have been observed to congregate on roads recently cleared by snowplows, apparently for the purpose of picking up sand and gravel thus exposed. This indicates that they may sometimes find it difficult to obtain ample supplies of grit in winter. In protracted snowy periods, therefore, it is well to provide them with coarse sand, oyster shell, ground limestone, or other mineral substances of similar use to poultry.

FEEDING GAME MAMMALS

Squirrels, rabbits, and deer are the game mammals that most often need to be fed in winter. The methods suggested for upland game birds are equally effective for squirrels and rabbits. In orchard districts care should be used not to increase rabbits at the expense of agricultural interests.

Deer if hungry will eagerly eat good-quality alfalfa and clover hay. A more natural food can be provided in woodland areas where surplus and defective trees are felled, if the logs only are removed, thus leaving the branches and twigs. Deer readily browse on birches, maples, and many other trees; they also feed on white cedar.

Similar methods are useful where snowshoe rabbits are to be fed; for them the aspen is as good as any other tree and in most places is abundant. If felled trees are left untrimmed the shelter they afford is useful to many kinds of wild life.

In some regions other mammals also require winter feeding. In parts of the Western States, for instance, notably in the Jackson Hole region, Wyoming, bands of elk from the higher summer ranges of the Yellowstone National Park region invade in winter the valleys where ranching is carried on, and it is sometimes necessary to feed them to prevent serious losses from starvation, and also damage to

stacked hay and other property. Regular feeding of hay in winter has been resorted to for many years by cooperating Federal and State agencies on the Elk Refuge maintained by the Bureau of Biological Survey in Wyoming.

PREDATORS NEAR FEEDING STATIONS

Many valuable hawks and owls are to be seen in winter coverts that shelter game and rodents. Without further evidence, however, this should not lead to the assumption that they are seriously depleting the game species. Where there are good coverts and plentiful food, farm birds suffer little winter loss from predators. With the exception of the large, rare goshawk and the smaller Cooper's hawk, predacious birds ordinarily need not be eliminated from the vicinity of feeding stations. Indeed, such forms of wild life add a great deal of animation to winter scenery, giving pleasure, the importance of which to the nonshooting public, hunters should be willing to concede. There is no excuse for slaughtering snowy owls, red-tailed hawks, screech owls, and similar species of beneficial tendency. Where such slaughter does occur in the name of sport or for its reputed advancement, those interested in nature in general are fully justified in seeking to prevent it. It is well to recall that a few hundred mice, which are the common winter food of many birds of prey, may easily eat more than enough grain to feed a covey of quail through a storm period.

PLANNING FOR NEXT YEAR

When a winter-feeding campaign has been successfully carried out one year, it is important that preparations be made for an even more effective one the following year. Satisfactory sites for winter-feeding stations having been decided upon, their value may be enhanced in many cases by improving the adjacent cover. For example, some stations may be rather openly situated, and these may be improved by planting a patch of sweetclover for cover, by fencing in a corner of a pasture or grazed wood lot, or by planting shrubs or trees. The farmer or sportsman who has carried on active winter feeding in severe weather will come to appreciate the scarcity of adequate game coverts. Winter feeding of game is of great importance, yet it will be realized that compared with the task of cover restoration it is but a small contribution to the welfare of the various species. Winter feeding, consequently, should be considered as but one part, possibly a minor part, of a larger program of year-round assistance to the wild life of the farm, involving cover restoration, protection from natural enemies, adjustment of the total kill to the available supply, and many other factors.

With farming and other industrial operations constantly encroaching on the former domain of wild life this valuable natural resource needs all the assistance man can lend in its preservation. Not least of these is the provision of food during periods of stress, particularly in winter.

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